

ABSTRACT

Method and composition for detecting one or more selected polynucleotide regions in a target polynucleotide. In the method, a mixture of sequence-specific probes are reacted with the target polynucleotide under hybridization conditions, and the hybridized probes are treated to selectively modify those probes which are bound to the target polynucleotide in a base-specific manner. The resulting labeled probes include a polymer chain which imparts to each different-sequence probe, a distinctive ratio of charge/translational frictional drag, and a detectable label. The labeled probes are fractionated by electrophoresis in a non-sieving matrix, and the presence of one or more selected sequences in the target polynucleotide are detected according to the observed electrophoretic migration rates of the labeled probes in a non-sieving medium.

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